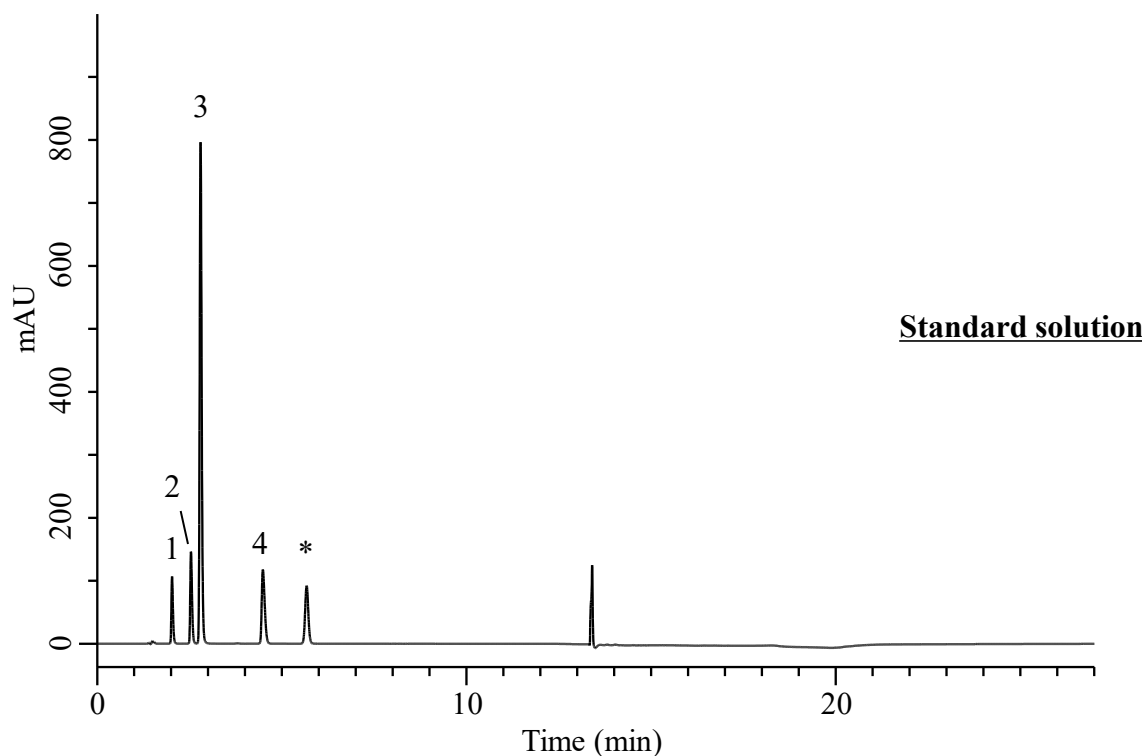


Analysis of Quinic acid, Malic acid, Citric acid, Shikimic acid

(Under the Condition of draft for USP, Aronia melanocarpa Fruit Aqueous Dry Extract, IDENTIFICATION C.HPLC PROFILE AND RATIO OF ORGANIC ACIDS)



Conditions

Column : InertSustain AQ-C18 HP (GL Sciences Inc.)
(3 μ m, 150 x 3.0 mm I.D.)
Column Cat. No. : 5020-89930
Eluent : A) CH₃CN
B) Solution**

Time (min)	A (vol %)	B (vol %)
0.0	0	100
10.0	0	100
11.0	60	40
16.0	60	40
17.0	0	100
27.0	0	100

Flow Rate : 0.45 mL/min
Col. Temp. : 40 °C
Detection : UV 214 nm
Injection Vol. : 5 μ L
Sample : Standard in 0.3% hydrochloric acid in water

Analyte:

1. Quinic acid 1.0 mg/mL
2. Malic acid 1.0 mg/mL
3. Shikimic acid 1.0 mg/mL
4. Citric acid 0.1 mg/mL
* Impurity of malic acid

Relative retention times

Quinic acid : 0.45
Malic acid : 0.56
Shikimic acid : 0.62
Citric acid : 1.00

Resolution (2, 3) : 2.63 ($\geq$ 2.0)

Tailing factor(1) : 1.32 ($\leq$ 2.0)

Tailing factor(2) : 1.31 ($\leq$ 2.0)

RSD of

the peak area of 1 (%) (n=6) : 0.09 ($\leq$ 2.0)
the peak area of 2 (%) (n=6) : 0.05 ($\leq$ 2.0)

** : 20 mM potassium phosphate, monobasic. Adjust with phosphoric acid to a pH of 2.4.